

Abstract of the Disclosure

Methods of electrodepositing layers of tin or tin-alloys on a substrate are provided. The methods involve electrolytically treating a substrate with a solution comprising a phosphoric acid and a carboxylic acid, and electrodepositing a layer of tin or tin-alloy on a surface of the treated  
5 substrate. The methods can provide tin or tin-alloy layers having a reduced tendency to form whiskers.